

AMENDMENTS TO THE CLAIMS

Claim 1 - 25: Canceled

Claim 26 (Currently amended): An isolated enzyme which has an activity to deaminate amido groups in a protein, wherein said enzyme comprises the amino acid sequence of SEQ ID NO:6 ~~is obtained from *Cytophagales* or *Actinomyces*.~~

Claim 27 (Currently amended): An isolated enzyme which has an activity to deaminate amido groups in a protein by directly acting upon the amido groups without cutting peptide bonds and without cross-linking a protein, wherein said enzyme comprises the amino acid sequence of SEQ ID NO:6 ~~is obtained from *Cytophagales* or *Actinomyces*.~~

Claim 28-30 (Canceled)

Claim 31 (Currently amended): A recombinant polypeptide having an action to deaminate amido groups in protein, which is obtained by culturing a transformant transformed with a recombinant vector, which contains a nucleotide ~~selected from the group consisting of:~~

- ~~a) — a nucleotide which encodes a polypeptide having an activity to deaminate amido groups in protein;~~
- ~~b) — a nucleotide which encodes a polypeptide having an activity to deaminate amido groups in protein by directly acting upon the amido groups without cutting peptide bonds and without cross linking a protein;~~
- ~~c) — a nucleotide which comprises a nucleotide being selected from the following nucleotides (i) to (iii) and encoding a polypeptide having an activity to deaminate amido groups in protein;~~

- (i) a nucleotide which encodes a polypeptide having the amino acid sequence of SEQ ID NO:6,
 - (ii) a nucleotide which has the homology of 80 % or more with nucleotide sequence of SEQ ID NO:5,
 - (iii) a nucleotide which is degenerate with respect to any one of the aforementioned nucleotides (i) to (ii). and
- ~~a) a nucleotide which comprises a nucleotide encoding a polypeptide having the amino acid sequence SEQ ID NO:6, thereby allowing said transformant to produce an enzyme having an activity to deamidate amido groups in protein, and subsequently collecting the enzyme having an activity to deamidate amido groups in protein from the culture mixture.~~

Claim 32 (Currently amended): A method for producing an enzyme, which comprises culturing a microorganism in a nutrient medium, thereby allowing said microorganism to produce an enzyme having an activity to deamidate amido groups in protein, and subsequently collecting said enzyme, wherein said enzyme comprises the amino acid sequence of SEQ ID NO:6 ~~the microorganism is *Cytophagales* or *Actinomyces*.~~

Claim 33 (Currently amended): A method for producing an enzyme having an activity to deamidate amido groups in protein, which comprises culturing a microorganism in a nutrient medium, thereby allowing the microorganism to produce an enzyme which has an activity to deamidate amido groups in protein by directly acting upon the groups without causing severing of peptide bond and cross-linking of protein, and subsequently collecting said enzyme, wherein said enzyme comprises the amino acid sequence of SEQ ID NO:6 ~~the microorganism is *Cytophagales* or *Actinomyces*.~~

Claim 34 - 38 (Canceled).

Claim 39 (Currently amended): A composition for use in modification of a protein or a peptide, which comprises an isolated enzyme having an activity to deamidate amido groups in protein or peptide by directly acting upon the groups without causing severing of peptide bond and cross-linking of protein, as the active ingredient, wherein said enzyme comprises the amino acid sequence of SEQ ID NO:6 ~~is obtained from *Cytophagales* or *Actinomyces*.~~

Claim 40 (Currently amended): An isolated enzyme which has an activity to deamidate amido groups in protein, wherein said enzyme comprises the amino acid sequence encoded by the nucleotide sequence of SEQ ID NO:5 ~~is obtained from *Flavobacteriaceae*.~~

Claim 41 (Currently amended): An isolated enzyme which has an activity to deamidate amido groups in protein by directly acting upon the groups without causing severing of peptide bond and cross-linking of protein, wherein said enzyme comprises the amino acid sequence encoded by the nucleotide sequence of SEQ ID NO:5 ~~is obtained from *Flavobacteriaceae*.~~

Claim 42 (Currently amended): A method for producing an enzyme, which comprises culturing a microorganism in a nutrient medium, thereby allowing the microorganism to produce an enzyme which has an activity to deamidate amido groups in protein and subsequently collecting said enzyme, wherein said enzyme comprises the amino acid sequence encoded by the nucleotide sequence of SEQ ID NO:5 ~~the microorganism is *Flavobacteriaceae*.~~

Claim 43 (Currently amended): A method for producing an enzyme having an activity to deaminate amido groups in protein, which comprises culturing a microorganism in a nutrient medium, thereby allowing the microorganism to produce an enzyme which has an activity to deaminate amido groups in protein by directly acting upon the groups without causing severing of peptide bond and cross-linking of protein, and subsequently collecting said enzyme, wherein said enzyme comprises the amino acid sequence encoded by the nucleotide sequence of SEQ ID NO:5 ~~the microorganism is *Flavobacteriaceae*.~~

Claim 44 - 46 (Canceled),

Claim 47 (Currently amended): A composition for use in modification of a protein or a peptide, which comprises an isolated enzyme having an activity to deaminate amido groups in protein or peptide by directly acting upon the groups without causing severing of peptide bond and cross-linking of protein, as the active ingredient, wherein said enzyme comprises the amino acid sequence encoded by the nucleotide sequence of SEQ ID NO:5 ~~is obtained from *Flavobacteriaceae*.~~